

ABSTRACT OF THE DISCLOSURE

A method of ejecting ink from a ink-jet printhead includes filling a rear end of a nozzle with ink using a capillary force, the rear end of the nozzle being surrounded by a hydrophilic layer, forming an electric field directed toward an outlet of the nozzle on a front end of the nozzle, the front end of the nozzle being surrounded by a hydrophobic layer, varying a surface tension of ink to separate ink droplets having a predetermined volume from ink and to move the separated ink droplets within the front end of the nozzle toward the outlet of the nozzle, and ejecting the separated ink droplets through the outlet of the nozzle.